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Remarks on the dedication
of the New Science and Engineering
Buildings of McGill University,
Montreal.



Walker (F. R.)

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REMARKS ON THE DEDICATION OF THE NEW SCIENCE
AND ENGINEERING BUILDINGS OF MCGILL UNI-
VERSITY, MONTREAL.¹

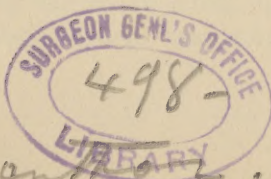
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BY FRANCIS A. WALKER, LL.D.

I PRESENT the heartiest congratulations of the Massachusetts Institute of Technology to the officers and teachers of McGill University, and especially to Dr. Bovey, on the fortunate completion and the present auspicious dedication to their destined uses, of these commodious and superbly equipped laboratories of physics and engineering. The distinguished position which this university has long held in science and the applications of science to useful arts cannot fail to be greatly advanced as the result of these noble benefactions of Mr. McDonald.

The growth of scientific and technical schools on this continent during the past thirty years has savored of the marvelous. In part, it has been due to the changed ideas and the transfigured ideals of the American People; in part, to the recognized need of greater skill and more of scientific knowledge for the development of the natural resources of the continent and for the direction of its growing enterprises. In this movement of the age, even the older institutions have been compelled profoundly to modify their traditional courses of study, substituting scientific and even technical instruction for much that was formerly deemed essential to a liberal education.

Of the reluctance, and even resistance which this movement has encountered from many who deservedly held high places in the old educational order, I would not speak with harshness. The notion that scientific work was something essentially less fine and high and noble than the pursuit of rhetoric and philosophy, Latin and Greek, was deeply seated in the minds of the leading educators of America a generation ago. And it has not even yet wholly yielded to the demonstration offered by the admirable effects of the new education in training up young men to be as modest and earnest, as sincere, manly, and

¹ February 24, 1893.



presented by the author.

pure, as broad and appreciative, as were the best products of the classical culture, and withal, more exact and resolute and strong. We can hardly hope to see that inveterate prepossession altogether disappear from the minds of those who have entertained it. Probably these good men will have to be buried with more or less of their prejudices still wrapped about them; but from the new generation scientific and technical studies will encounter no such obstruction, will suffer no such disparagement.

Another objection which the new education has encountered is entitled to far more of consideration. This has arisen from the sincere conviction of many distinguished and earnest educators that the pursuit of science, especially where its technical applications are brought strongly out, loses much of that disinterestedness which they claim, and rightly claim, is of the very essence of education. For the spirit of this objection I entertain profound respect. I only differ from these honorable gentlemen in believing that the contemplated uses of science, whether in advancing the condition of mankind or even in promoting the ulterior usefulness, success, and pecuniary profit of the student of a technical profession, do not necessarily impair that disinterestedness which I fully concede is essential to the highest and truest education of the man. These gentlemen appear to me to have an altogether unnecessary fear of the usefulness of science. They entertain much of that dread of "Fruit," which Macaulay, in his famous essay on Bacon, doubtless with something of exaggeration, as his custom was, attributed to the old philosophers.

I am willing to admit that, in my humble judgment, many technical schools have erred in addressing themselves too closely to the practical side of instruction; that they have in some degree neglected principles in the study of science, and have borne an undue weight upon mere knacks and labor-saving devices and technical methods. I believe that in doing this they have made a mistake, even from their own point of view, and with reference to the very objects they profess. Moreover, I am free to acknowledge that those who direct many technical schools have made a mistake, in altogether, or nearly so, omitting from their curriculum philosophical as distinguished from scientific, liberal as distinguished from exact, studies. Those technical schools will best accomplish their purposes of usefulness, alike to their students and to the State, which make more of the sciences than of the arts, more of principles than of their applications, and which offer to

their pupils, in addition to the studies which will make them exact and strong, some of the studies and exercises which will help to render them, at the same time, broad and fine.

With only such a subordination of technical and scientific studies as is for the ultimate advantage of the technical professions themselves, and with such a complementing of scientific by philosophical studies as has been indicated, I believe that the work of the student in schools of technology is as fully entitled to be termed disinterested as that of a student in a classical college. In neither class of institutions can or ought the student to be unmindful that his personal success in life and his professional and social position are largely to depend upon the manner in which his work shall be done in college. All that can be asked in regard to any school is that there shall be zeal in study, delight in discovery, fidelity to the truth as it is discerned, high aims, and ambitions which have not sole or primary respect to material rewards. The strong desire to become a useful man, well equipped for life, capable of doing good work, respected and entitled to respect, constitutes no breach of disinterestedness, in any sense of that word in which an educator would be justified in using it with commendation.

The practical uselessness for any immediate purpose of a given subject of study may be no reason why it should not be pursued; but, on the other hand, the high immediate usefulness of a subject of study furnishes no ground from which the educator of loftiest aims and purest ideals should regard it with contempt or distrust. In either case, the question of real import is in what spirit the study is pursued. The most distinguished French writer of to-day on matters of education, writing, too, in advocacy not of physical but of social science, has frankly paid his tribute to the disinterestedness of spirit and loftiness of motive which promote and direct scientific research, even in its most practical applications. "Let us," he says, "pass in review the great founders of modern science and the creators of industry, the Keplers and the Fultons, and we shall be struck by the idealistic and even Utopian tendency peculiar to them. They are, in their own way, dreamers, artists, poets, controlled by experience."

And if, leaving abstract reasoning, we turn to contemplate the manner in which the several professions are practiced in the community, I seem to find corroboration of the view that the study of science and its applications to the arts of life do not tend to produce sordid

character or to confine the man merely to material aims. Every profession has its black sheep and its doubtful practitioners; but, while frankly admitting that there are mercenary physicists and chemists for revenue only, I boldly challenge comparison between the scientific men of America, as a body, and its literary men or even its artists, in the respects of devotion to truth, of simple confidence in the right, of delight in good work for good work's sake, of indisposition to coin name and fame into money, of unwillingness to use one thing that is well done as a means of passing off upon the public three or four things that are ill done. I know the scientific men of America well, and I entertain a profound conviction that in sincerity, simplicity, fidelity, and generosity of character, in nobility of aims and earnestness of effort, in everything which should be involved in the conception of disinterestedness, they are surpassed, if indeed they are approached, by no other body of men.

Let us, then, cheer on every enterprise for the extension of scientific and technical education, without any misgivings as to its effects upon the character and subsequent life of the young men of America, without any fear that they will be rendered sordid in spirit or low in their aims by reason of the practical usefulness of the studies to which they are called to apply themselves. There is a wonderful virtue in the exact sciences to make their students loyal, just-minded, clear-headed, and strong against temptation. Here, no insidious tendencies to mere plausibility, to sophistry, and to self-delusion beset the young and the ambitious. The only success here is to be right. The only failure possible is to be wrong. To be brilliant in error here is only to make the fact of error more conspicuous and more ludicrous. Nothing but the truth, nothing less than the whole truth, this is the dominating spirit of the laboratory, which never withdraws its control over the student to keep him from the false path, which never intermits its inspiration as it urges him onward to the light.



